Seagate

Barracuda 7200.7 Installation Guide
ST3200822A, ST3200821A, ST3160021A, ST3160023A, ST3120022A, ST3120026A, ST380011A, ST380013A, and ST340014A

ATA Interface Disc Drives

The easiest way to install your drive
DiscWizard™, available exclusively from Seagate®, provides you with customized installation instructions for your hard drive. You can get this free disc drive installation software from our web site at www.seagate.com/support or run the program directly from your web browser. In either case, you should run DiscWizard **before** you install your drive.

To run DiscWizard:
Follow the instructions on the download page at www.seagate.com to create a diskette and complete the installation.
If you cannot run DiscWizard, follow the instructions on this installation sheet to install and configure your drive.

What you need
- A Phillips screwdriver and four 6-32 UNC drive mounting screws
- An ATA interface cable. For optimum drive performance and data integrity, use an 80-conductor Ultra ATA/100 cable (which can be identified by its blue, gray, and black connectors).

Ultra ATA/100 requirements
The drive can be configured to support a default maximum transfer rate. This drive can support transfer rates up to 100 Mbytes per second (UDMA 5) in Ultra ATA/100 mode. Using a software utility, you can set the default transfer rate to the best capability of your system. For your drive to run in this mode, you need the following:
- A computer that supports UDMA mode 5
- A 40-pin, 80-conductor cable (available from your computer dealer)
- A software utility to confirm and activate Ultra ATA/100. Seagate provides a utility called UATA100.exe. You can download the latest version from our web site at www.seagate.com.
- Windows XP, Windows Me, or Windows 98 operating system which supports Ultra ATA 100.

Large disc requirements (for capacities over 137 Gbytes)
To realize the full capacity of drives over 137 Gbytes:
- Use an operating system that supports 48-bit addressing:
  - Microsoft Windows XP Home with Service Pack 1 (or later)
  - Microsoft Windows XP Professional with Service Pack 1 (or later)
  - Windows 2000 Professional with Service Pack 3
  - Windows 2000 Server with Service Pack 3
- Use a 48-bit compatible Ultra ATA/133 PCI host adapter card or connector on your motherboard.

Go to http://support.seagate.com for additional information.

Breather filter hole precaution

Breather Hole
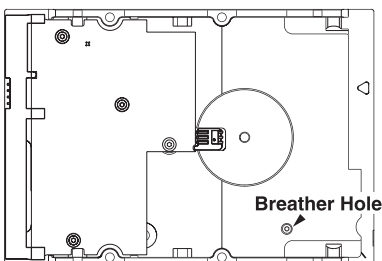
Caution. Do not cover, seal, or insert any object into this hole.
This hole has two purposes:
- To allow condensation inside the hard disc to escape
- To allow air pressure inside the hard disc to equalize with ambient pressure

If this hole is covered, sealed, or penetrated by any object, the drive reliability may be compromised and could lead to permanent damage—doing so voids the warranty.

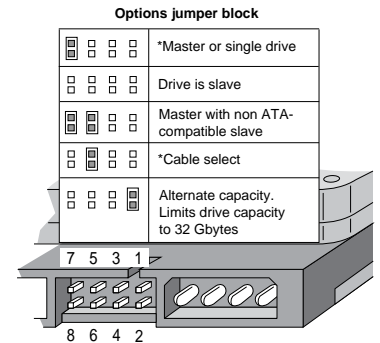### Handling precautions/electrostatic discharge protection
- Disc drives are fragile. Do not drop or jar the drive. Handle the drive only by the edges or frame.
- Drive electronics are extremely sensitive to static electricity. While installing the drive, wear a wrist strap and cable connected to ground.
- Turn off the power to the host system during installation.
- Do not disassemble the drive; doing so voids the warranty. Return the entire drive for depot service if any part is defective.
- Do not apply pressure or attach labels to the drive.

Setting the jumpers
Refer to the jumper settings illustration below or on your drive label to configure the drive for your system. Jumper settings can also be accessed online from our web site at www.seagate.com.
- **Master or single drive:** The drive is shipped configured for a master or a single drive with a jumper set on pins 7 and 8.
- **Drive is slave:** To configure the drive as a slave or second drive on the cable, remove all the jumpers.
- **Master with non-ATA compatible slave:** Use this setting if the slave drive is not recognized. Configure the master drive with a jumper set on pins 5 and 6 and pins 7 and 8 to enable this option.
- **Cable select:** Computers that use cable select to determine the master and slave drives by selecting or deselecting pin 28, CSEL, on the interface bus. To enable cable select, set a jumper on pins 5 and 6.
- **Alternate capacity jumper:** Drives with a 40-Gbyte capacity or greater are limited to 32 Gbytes. Use this jumper only if you have a legacy system with a BIOS that does not support large capacity disc drives. When using the alternate capacity jumper,
- Manager software is required to achieve the drive's full capacity.

Options jumper block

	*Master or single drive
	Drive is slave
	Master with non ATA-compatible slave
	*Cable select
	Alternate capacity. Limits drive capacity to 32 Gbytes

7 5 3 1

8 6 4 2

Attaching cables and mounting the drive
1. Attach one end of the drive interface cable to the interface connector on your computer's motherboard (see your computer manual for connector locations).

Master
Slave
Pin 1
Computer Motherboard
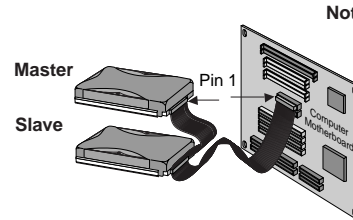
Note. When configuring two ATA devices on the same cable, both must use Cable Select or both must use Master/Slave jumper settings. If using a standard 40-pin cable, the master and slave drives can be placed in any position. If using a 40-pin 80-conductor cable, attach the blue connector to the motherboard, the black connector to the master drive and the grey connector to the slave.

Caution. Align pin 1 on the motherboard connector with pin 1 on your drive connector. Pin 1 is marked by a stripe on one side of the cable.

2. Secure the drive using four 6-32 UNC mounting screws in either the side-mounting or bottom-mounting holes. Insert the screws no more than 0.20 inches (5.08 mm) into the bottom-mounting holes and no more than 0.14 inches (3.55 mm) into the side-mounting holes.

Note. Do not overtighten the screws or use metric screws. This may damage the drive.

3. Attach the interface connector and the power connector to the drive.

Configuring the BIOS
Close your computer case and restart your computer. your computer may automatically detect your new drive. If your computer does not automatically detect your new drive, follow the steps below.
a. Restart your computer. While the computer restarts, run the System Setup program (sometimes called BIOS or CMOS setup). This is usually done by pressing a special key, such as DELETE, ESC, or F1 during the startup process.
b. Within the System Setup program, instruct the system to auto detect your new drive.
c. Enable LBA and UDMA modes, if available and then save the settings and exit the Setup program.

When your computer restarts, it should recognize your new drive. If your system still doesn't recognize your new drive, see the troubleshooting section on the back of this sheet.

BIOS Settings

Drive Model	Formatted Gbytes	Total Sectors*	Cache
ST3200822A	200.0	390,721,968	8 Mbytes
ST3200821A	200.0	390,721,968	2 Mbytes
ST3160023A	160.0	312,581,808	8 Mbytes
ST3160021A	160.0	312,581,808	2 Mbytes
ST3120026A	120.0	234,441,648	8 Mbytes
ST3120022A	120.0	234,441,648	2 Mbytes
ST380013A	80.0	156,301,488	8 Mbytes
ST380011A	80.0	156,301,488	2 Mbytes
ST340014A	40.0	78,165,360	2 Mbytes

*One sector equals 512 bytes.

Preparing the drive using DiscWizard

Installing a single drive

If you are installing a single drive, we recommend using DiscWizard to automatically partition and format your drive. DiscWizard software is available at www.seagate.com and is free. During the download, the Diskette Creator creates a portable bootable diskette. To run DiscWizard:

1. Insert your bootable DiscWizard diskette and follow the instructions. DiscWizard will guide you through the installation process.

2. Boot your computer from the Windows operating system CD-ROM or from your system startup diskette with the Windows CD loaded. At the prompt, type **setup**. Follow the instructions provided on your screen.

Installing a slave drive

If you are installing a second drive, or slave, to your system, use the DiscWizard software available at www.seagate.com.

If you do not want to install your drive using either DiscWizard or Disk Manager, see "Standard Microsoft Installation" below to partition and format your drive.

Standard Microsoft installation

Caution. Partitioning or formatting a drive erases all data on the drive. Seagate assumes no liability if you erase your data.

1. Insert a bootable Windows startup diskette and restart your computer. This is provided with your Microsoft Windows operating system software.

2. Run **fdisk** and create a primary DOS partition.

3. Mark the partition as active to make the partition bootable.

Drive formatting

Caution. Use the correct drive letters to prevent formatting a drive that already contains data.

1. At the A: prompt, type **format x:** (where x is the letter of your first new partition) and then press the Enter key. Repeat the format process for all new partitions.

2. Proceed to "Loading the operating system" below.

Loading the operating system

Note. The operating system needs to be installed on the master drive only. It is not required when adding a second drive.

1. Boot your computer from your Windows operating system CD-ROM or from your system startup diskette with the Windows CD loaded in the CD drive.

2. At the prompt, type **setup** and continue with the Windows setup as instructed on your screen.

Troubleshooting

If your drive is not working properly, these troubleshooting tips may help solve the problem.

1. **Does the drive spin up?** A spinning drive produces a faint whine and clicking noise that begins when power is applied. If your drive does not spin, check that the power connector and interface cable are securely attached and the jumpers are installed correctly.

2. **Does the computer recognize the drive?** Verify that the drive is enabled in the system CMOS or setup program. If not, select the autodetect option and enable it. If your drive has a problem, it may not be recognized by the system.

3. **Does FDISK detect the drive?** Run the FDISK program located on your Windows startup diskette. Type **fdisk/status** to verify that your hard drive is present and recognized by the system.

4. **Does Scandisk find the drive defect-free?** Scandisk is a utility located on your Windows startup diskette that scans the drive for defects. If defects are detected, this may be an indication of a problem.

5. **Why won't the drive format to full capacity?** Verify that your BIOS has autodetect and LBA mode enabled. Otherwise, you may need to use Disk Manager to achieve the full capacity of your drive. Download the latest version from www.seagate.com or find it on your CD.

6. **Why does my computer hang on startup?** Verify that your system is ATA/100 compatible with the UDMA mode setting. Some legacy BIOS cause hangs on startup or other problems if it is not ATA/100 compatible. For more information, see the earlier section on the Ultra ATA/100 requirements. In addition, some legacy BIOS may cause a hang due to the large drive capacity. Consider using the alternate capacity jumper if it is available on your drive model.

Use the alternate capacity jumper if your computer does not support higher capacity drives. The jumper will limit large capacity drives to 32 Gbytes.

Note. If these tips do not answer your question or solve the problem, contact your dealer or visit http://seatools.seagate.com to download SeaTools disc diagnostics software and more troubleshooting advice.

Seagate support services

For online information about Seagate products, visit www.seagate.com or e-mail your disc questions to DiscSupport@Seagate.com.

If you need help installing your drive, consult your dealer first. If you need additional help, call a Seagate technical support specialist. Before calling, note your system configuration and drive model number.

Africa	+1-405-324-4714	Netherlands	00 800-47324283
Australia	1800-14-7201	New Zealand	0800-443988
Belgium	00 800-47324283	Norway	00 800-47324283
China*	800-810-9668	Poland	00 800-311 12 38
Denmark	00 800-47324283	Spain	00 800-47324283
France	00 800-47324283	Sweden	00 800-47324283
Germany	00 800-47324283	Switzerland	00 800-47324283
Hong Kong	800-90-0474	Singapore	800-1101-150
Hong Kong†	001-800-0830-1730	Taiwan*	00-800-0830-1730
India	1-600-180-1104	Thailand	001-800-11-0032165
Indonesia	001-803-1-003-2165	Turkey	00 800-31 92 91 40
Ireland	00 800-47324283	United Kingdom	00 800-47324283
Italy	00 800-47324283	USA/Canada/	1-800 SEAGATE or
Japan	0034 800 400 554	Latin America	+1-405-324-4700
Korea	007 98 8521 7635	Other European	
Malaysia	1-800-80-2335	countries	+1-405-324-4714
Middle East	+1-405-324-4714		

*Mandarin
†Cantonese